

## II. REMARKS

### **Formal Matters**

Claims 1-9 and 11-29 are pending after entry of the amendments set forth herein.

Claims 1-20 were examined and were rejected.

Claims 1-5, 7-8, 11, 15, 17, and 19 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as acquiescence to any objection or rejection of any claim. Support for the amendments to claims is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: paragraphs 0021, 0024; and figures 1, 3A, 3B, and 4-5. Accordingly, no new matter is added by these amendments.

Claim 10 is canceled without prejudice to renewal, without intent to acquiesce to any rejection, and without intent to surrender any subject matter encompassed by the canceled claims. Applicant expressly reserves the right to pursue any canceled subject matter in one or more continuation and/or divisional applications.

Claims 21-29 are added. Support for new claims 21-29 is found in the claims as originally filed, and throughout the specification, including the following exemplary locations: claim 1-4, and paragraphs 0023, 0031, 0036, 0037, 0045, 0049, 0052. Accordingly, no new matter is added by these new claims.

Applicant respectfully requests reconsideration of the application in view of the remarks made herein.

### **Rejection under 35 U.S.C. § 102**

Claims 1-20 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Manalis (USPN 7,387,889).

Manalis discloses an analytical cell 100 that includes a U-shaped free-standing microfluidic channel 110 defined as a hollow within an elongated, finger-like cantilever 115 that projects from (and is integral with or joined to) a mechanically stable supporting substrate 120. (*See, e.g.*, Manalis, fig. 1; col. 4, ll. 37-43). Thus, Manalis teaches an elongated structure having hallowed out channels within it, with inlet and outlets of the channels at the same end of the elongated structure. (*See, e.g.*, Manalis, figs. 1, 3F, 4, 6, 7A-7B, and 8A-8E). The cantilever structure in Manalis is taught to be a wafer structure that is formed using conventional silicon-processing techniques with etched channels in the layers of the wafer. (*See, e.g.*, Manalis; col. 10, ll. 39-66). Manalis does not teach, or even suggest, using a calorimeter tube having an inlet end and an outlet end, wherein the calorimeter tube is mounted onto a support at the inlet end and the outlet end. Claim 1 has been amended to recite, in part, that the calorimetric device comprises a U-shaped calorimeter tube having an inlet end and an

outlet end, and mounted onto a support at the inlet end and the outlet end. Therefore, Manalis does not teach at least this limitation of claim 1, and thus does not anticipate claim 1. Applicant respectfully submits that claim 1 is in a condition for allowance.

Claims 2-9 and 11 ultimately depend from independent claim 1, and thus include all the limitations of claim 1. Therefore, claims 2-9 and 11 are not anticipated by Manalis for at least the same reasons as discussed above for claim 1. Applicant respectfully submits that claims 2-9 and 11 are in a condition for allowance.

Claim 12 requires an array comprising a plurality of the device of claim 1, and thus is not anticipated by Manalis for at least the same reason as discussed above for claim 1. Claims 13-14 depend from claim 12 and thus are not anticipated for at least the same reason as for claim 12. Applicant respectfully submits that claims 13-14 are in a condition for allowance.

Claim 15 is a method claim that requires, in part, introducing a sample comprising a chemical reactant, a biological entity, or a macromolecule into the device of claim 1. Thus, claim 15 is not anticipated by Manalis for at least the reasons discussed above for claim 1. Further, claims 16-20 ultimately depend from claim 15, and thus include all the limitations of claim 15. Therefore, claims 16-20 are not anticipated by Manalis for at least the same reason as for claim 15. Applicant respectfully submits that claims 16-20 are in a condition for allowance.

As stated above, claim 10 has been canceled. Further, Applicant notes that claims 2-5, 7-8, 11, 15-17, and 19 have been amended to align with the amendments made in claim 1.

Additionally, Applicant has rewritten originally filed claim 2 in independent form as new claim 21. Applicant points out that Manalis does not teach, or even suggest, a sensor that detects temperature input into the reaction vessel and/or temperature output from the vessel required to maintain the reaction vessel at a substantially constant temperature. Rather, Manalis only teaches detecting changes in mechanical resonant frequency, or changes in bending, to detect a change in temperature. (*See, e.g.*, Manalis; col. 3, ll. 1-5, 19-49). Manalis does not mention or suggest maintaining a reaction vessel at a substantially constant temperature. Therefore, Manalis does not teach each and every limitation of claim 21, and thus does not anticipate claim 21. Applicant respectfully submits that claim 21 is in a condition for allowance.

Furthermore, claims 22-26 ultimately depend from claim 21, and thus include all the limitations of claim 21. Therefore, Applicant respectfully submits that claims 22-26 are in a condition for allowance for at least the same reason as for claim 21.

Applicant has also rewritten originally filed claim 7 in independent form as new claim 27. Applicant points out that Manalis does not teach, or even suggest, a reaction vessel having a total volume capacity in a range of from about 1  $\mu$ l to about 1ml. Rather, the teachings in Manalis limit the volume to a “well-defined volume (pL-nL scale)”. (*See, e.g.*, Manalis, col. 6, ll. 24-27). Therefore, Manalis does not teach each and every limitation of claim 27, and thus does not anticipate claim 27. Applicant respectfully submits that claim 27 is in a condition for allowance.

Furthermore, claims 28-29 ultimately depend from independent claim 27, and thus include all the limitations of claim 27. Therefore, Applicant respectfully submits that claims 28-29 are in a condition for allowance for at least the same reasons as discussed above for claim 27.

### III. CONCLUSION

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number UCLA-013.

Respectfully submitted,  
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